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Amdt. dated October 22, 2009
Reply to Office Action of July 16, 2009

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REMARKS/ARGUMENTS

Prior to this amendment, claims 1-22 and 25 were pending. In this amendment, claims 1, 9, and 15 are amended, claims 18 and 25 are canceled, and claims 26-28 are added. No new matter is added. Thus, after entry of this amendment, claims 1-17, 19-22, and 26-27 will be pending.

Interview

Applicants would like to thank the Examiner for extending the courtesy of a telephone interview with counsel, David B. Raczkowski, on October 19, 2009, where an initial agreement was reached pending further consideration.

Claim Objections

Claim 25 was objected to because of informalities (i.e., a missing period at the end of the claim). This informality has been corrected.

Claim Rejections – 35 USC § 103(a), Culbertson, Mortensen

Claims 15-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson.

Claim 15

Claim 15 is allowable over Culbertson as Culbertson fails to teach or suggest all the elements of claim 15. For example, claim 15 recites the computer readable medium comprising code for a statistical failure isolation (SFI) tool, wherein the SFI tool:

> (c) calculates a total number of occurrences of each resource in the failed test paths received in the file, at least one resource occurring in two failed test paths; and
> (d) identifies a subset of the routing resources _based only on the test patterns that have failed_, wherein the subset comprises one or more resources having the highest number of occurrences; and
> code for an adaptive failure isolation (AFI) tool that _subsequent to completion of (b)-(d)_ generates new test patterns including program bits that define new test paths for testing the subset of the routing resources, wherein each of the new test paths includes:
> > the first routing resource; and

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> *a combination, not included in the other new test paths, of fan-in
> and fan-out resources that are programmably connectable to the first routing
> resource,*
> *wherein the new test paths test every combination of fan-in and fan-out
> resources that are programmably connectable to the first routing resource.*

At page 8, the Office Action points to resources 71b-71d as being identified only based on the failed test patterns 93-95. However, this is incorrect.

If only failed test patterns 93-95 were used, then resources 72b-75b would also be identified as potentially bad. Culbertson does not mark resources 72b-75b as potentially bad because prior test patterns (82-85 of FIG. 5B), which included resources 72b-75b, were passing. Thus, passing test patterns 82-85 are used to identify the subset of resources 71b-71d as being potentially bad. Accordingly, Culbertson does not teach or suggest identifying "*a subset of the routing resources based only on the test patterns that have failed, wherein the subset comprises one or more resources having the highest number of occurrences*" in the failed test paths, as recited in claim 15.

Furthermore, after Culbertson identifies resources 71b-71d using a plurality of passing and failing test patterns, any further test patterns do not and would not test every combination of fan-in and fan-out resources that can connect to resources 71b-71d. For example, since Culbertson keeps track of all of the passing test patterns, resource 71b can be determined to be bad with no further (new) testing. Accordingly, Culbertson does not teach or suggest "*wherein the new test paths test every combination of fan-in and fan-out resources that are programmably connectable to the first routing resource*" as recited in claim 15.

Additionally, after all of the resources have been adequately tested (step 58), Culbertson identifies the resources that remain marked as being defective and stores the identification of the defective resources in the database (step 60). *Id.*, FIG. 4B. At page 9, the Office Action states that keeping count of the number of times that a resource appears in a failing configuration is a matter of design choice. A simple statement that a feature is a design choice is not a proper rejection. *See* MPEP 2144.04 (C). A motivation for why one skilled in the art would make such choices is still required.

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Furthermore, even if it was obvious for step 60 to include the count of the number of failed configurations, such a step would occur <u>after all of the configurations are tested</u>, i.e. after new configurations were tested. Thus, the new test patterns would be tested <u>prior</u> to the counting. In contrast, claim 15 recites "*<u>subsequent to completion of (b)-(d)</u> generates new test patterns.*"

For at least these reasons, claim 15 and its dependent claims are allowable over Culbertson.

Claim Rejections – 35 USC § 103(a), Culbertson, Mortensen

Claims 1-3, 5-10, and 12-14,21-22, and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson et al (US Pat. 5,790,771; hereinafter referred to as Culbertson) in view of Mortensen (US Pat. 6,772,402).

Claim 1

Applicants submit that independent claim 1 and its dependent claims should be allowable for at least a same rationale as claim 15. Note that the cited teaching of Mortensen fails to make up for deficiencies in Culbertson as described above.

Claims 9

Applicants submit that independent claim 9 and its dependent claims should be allowable for at least a same rationale as claim 1.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

/David B. Raczkowski/

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